

Episode 48: A Mended Heart

Chris Dall: [00:00:00] Hi, everyone. Before we get started with this week's episode of the Osterholm Update, we just wanted to let you know that next Tuesday, March 23rd at seven p.m. Central, 8:00 p.m. Eastern, we'll be hosting a live episode of the podcast on our YouTube channel. You can tweet us your questions using the hashtag #OsterholmUpdateLive. The link to the live stream will be posted in this week's episode description. Now to this week's episode of the Osterholm Update.

Chris Dall: [00:00:31] Hello and welcome to the Osterholm Update: covid-19, a weekly podcast on the covid-19 pandemic with Dr. Michael Osterholm. Dr. Osterholm is an internationally recognized medical detective and director of the Center for Infectious Disease Research and Policy, or CIDRAP, at the University of Minnesota. In this podcast, Dr. Osterholm will draw on more than 45 years of experience investigating infectious disease outbreaks to provide straight talk on the covid-19 pandemic. I'm Chris Dall, reporter for CIDRAP News, and I'm your host for these conversations.

Chris Dall: [00:01:07] Over the course of the past week, there's been a great deal of media coverage marking the year since the World Health Organization declared covid-19 a global pandemic. Much of that coverage is focused fittingly on the lives lost and devastation wrought by the coronavirus. There's also been a lot of focus on what we've learned over the past year. We've clearly learned a lot about the virus and how it spreads, sickens and kills people over the past year. But with all that we know, how much we really understand this virus? In an interview last June with the public radio program Here & Now, right as the second wave of U.S. cases was starting, Dr. Osterholm said the following: "I think we all in the public health world have to have real humility right now and just admit we don't understand exactly what's happening and that we will do our very best to figure it out, to understand it, and to make recommendations about what we need to do to move forward with this pandemic." Two surges later, in the midst of a decline in cases that's been hard to explain we're facing a potential surge driven by variants, can we say that we have a better understanding of exactly what's happening? And how does that shape the recommendations we make moving forward? The light at the end of the tunnel is getting brighter as more and more people get vaccinated, but do we still need that humility in the face of a virus that has thrown us some curveballs over the past few months? We'll address all these issues on this March

18th episode of the Osterholm Update as we discuss the current state of the pandemic and the variants. We'll also answer some questions about covid-19 vaccines and take a look at a recent study on physical distancing in schools. And we'll highlight the latest pandemic act of kindness from one of our listeners. But first, as always, we'll begin with Dr. Osterholm's opening comments and dedication.

Michael Osterholm: [00:02:47] Thank you, Chris. Great to be back with you and it's really great to be back with the audience. We welcome you, as I said many times, and we'll never forget that you have many opportunities to seek out information on covid-19 and the issues around it. And we so appreciate having you with us, you, as part of our podcast family. These are, in fact, times where we need great humility. And so we'll talk more about that in a moment. But I would just start out by saying that if ever there was a time in my career in terms of what I know and don't know and how do I share what I know and don't know in a helpful way, it's now. This week's dedication is one that actually is overdue. And I regret that I haven't made this dedication before because I've thought about it and somehow it just didn't seem to hit the top of the list. But this week it's now at the top of the list. But it's a very important top of the list. This week I dedicate this podcast to those individuals with intellectual and developmental disabilities. They make up between one to two percent of our population, and they include individuals with attention deficit hyperactivity disorder, autism spectrum disorders, blindness, cerebral palsy, moderate to profound hearing loss, learning disabilities, seizures, stuttering or stammering and any other developmental delay with or without intellectual impairment. All of these, though, are something that is very relevant to the issue of covid-19. And I say that because it isn't often appreciated that persons with intellectual disabilities had higher rates of coronavirus infection than those without such limitation. In this study, they found that those with intellectual disabilities had more than 2.6 times the risk of becoming infected. They had 2.7 times the risk for hospitalization and 1.3 times the risk for hospital death associated with coronavirus infection versus those without intellectual disabilities. It's unclear why this is the case. Is it in fact, in part their need for daily care and attending close contact with care providers because? Is it because of less ability to comply with public health recommendations, use of shared transportation? Is it because of residents of long term care facilities? It's just not clear. But the bottom line is we all know loved ones in our lives who clearly are suffering from intellectual and developmental disabilities. And now on top of it, we throw covid-19. So this is dedicated to all of you. We so, so appreciate the gifts that you are in our lives. Rather than being

in what some would think of as being a challenge, you're also a gift. So this dedication goes to you. And it's in that light that I come back to the topic of light and the good news. Yes, we're getting there and today, March 18th, we'll have 12 hours and four minutes of sunlight, which is a twenty three minute improvement from just one week ago. And now that is two hours and fifty seven minutes more of sunlight than we had on December 21st. Isn't it exciting? In the United States we've now gone through Daylight Savings Time, so we've got that later afternoon. And it's just, there's a feeling in the air that it's getting there. It's getting better. And this summer is when not only will we have lots of sunlight, but we are so hopeful and so planning on also having much better days in living in a covid-19 world.

Chris Dall: [00:06:49] Let's talk about the current situation in the US and in other parts of the world and what we're seeing with the variants. But first, does that comment you made in June still apply? Do we understand exactly what's happening with covid-19?

Michael Osterholm: [00:07:05] This is one of those good news, bad news situations. I know a lot more about covid-19 than I did last June. And because of that, I know a lot less about it. This is a situation where I find that so many people have to have an answer that perfectly explains what's happening in our world right now, and they'll come up with all kinds of expert opinions or expert facts, I guess some would call it. And a number of them, to me, hold no water whatsoever. And we are lacking in an expert community today that can say precisely, "This is what we know and why we know it, this is what we think might be the case, but these are all the reasons we're not sure, and this is what we don't know and we just have to tell you what we're trying to do to find out. But we don't know." And as I've said so many times on this podcast, I want you to hold me accountable to those very, very same conditions. If I don't tell you what I know based on data or facts or experience, then discount it. Hopefully you won't believe anything I tell you I don't know about and think that I've shared fact with you because it won't be. So I think this is a very important time. I come back to the experience that I shared with you in previous podcasts about what happened in November. You know, that Fifth Dimension song still keeps playing in my head. This is the dawning of the age of the variants. And the variants have completely changed this game for me. We are no longer talking about the bottom of the third/top of the fourth inning. We're talking about two minutes into the first quarter. It is a whole new ballgame. So while there is clearly very good news about vaccines, we are making headway in some places around the

world, not in all, and we're going to talk about that more later. But we're making headway in protecting literally millions of people each day around the world. The question is going to be, what will the variants do to that protection? Will it compromise it? Will have little or no impact? What's happening with these new viruses that, in fact, may challenge us in terms of transmissibility and actual ability to cause serious disease? What will they do in terms of minimizing the protective effect of either natural infection or vaccine protection? So I am very humble about it. And I wish more of my colleagues were because I sometimes find it difficult when I read headlines or I see quotes in the media and think, "Now, how could you have said that? What data gave you that that information that you could say that?" And I'm not trying to be critical, but I think it's as much of our obligation as the people doing the talking to also have the data to support what we're talking about. And so, yes, humility right now with this virus is a very, very important trait. At the same time, make no mistake, there's a lot we can do. It's not like we're sitting here with our arms up in the air saying, "Oh, my, oh, my, the sky is falling." No, not at all. There's a lot we can do. But that's in part because we still have a lot left to learn.

Chris Dall: [00:10:40] Ok, so let's look at what's going on in the US and other parts of the world. What do you make of the current epidemiology of the coronavirus?

Michael Osterholm: [00:10:50] Well, let me begin by just focusing on good news, and that is about the vaccines and where we're at, because that'll immediately then apply to how do we interpret what's happening with the variants. In the United States specifically we are at, as of this week, about 11 percent of our population has been fully vaccinated with two doses. An additional 11 percent have been vaccinated with at least one dose for a total of 21.7 percent at this point, roughly. When we look at those sixty five years of age and older population that is near and dear to my heart because of the fact that they are at such a significantly increased risk for serious disease, hospitalization and death and right now we have thirty six percent of those individuals who are fully vaccinated and we have about sixty four percent who have had at least one dose. Now that again is still thirty five percent who haven't had any vaccine, which translates to 20 million Americans sixty five years of age and older. That is still the very vulnerable population that I worry so much about. So the good news this is happening. I'll comment more later, but on a global level, we still are leaving the middle and low income countries pretty much out of it. And this is a tremendous challenge, both from a humanitarian

standpoint, but also from a strategic standpoint of protecting our vaccines. Where we're going to see the variants that have the potential to compromise the protection that our vaccines provide us, I am convinced is going to come out of this widespread natural infection transmission model of the low and middle income countries where we are doing little at this point to vaccinate more than just a small portion of that population. So that's our challenge. And I believe we should be taking that on for humanitarian reasons. But I also believe it is such an important strategic effort that we need to launch to see how we can manufacture vaccines, distribute vaccines, get them in people's arms around the world, and shut this virus down on the planet, not just in a country, not just in a region. The final thing I just want to say to give people a sense of this kind of good news, bad news, we're working on the vaccines. Why are we doing that? I don't think people realize yet just the full dimensions of what this virus is doing today. Today. As we speak here, this week, covid-19 is the number one cause of death in the Americas. North and South America, Central America. One third of all the deaths in the Americas today are due to covid-19. That hasn't happened since 1918. So when people think that the pandemic is waning, it's over with, it's done even when we see lower numbers here, for our own Americas it is still an incredible public health challenge. So with that backdrop, let me give you a sense of what's happening with variants, because they are the complicating factor here that are going to make our future challenging at best. I've been talking about the situation with B117, the variant first found in the United Kingdom for better part of nine weeks now. And I think some people think, you know, at some point just be quiet about it, you know, when is it going to really happen? And we did start to see the increase in B117 variant activity in the Americas, particularly in the United States, literally about six weeks ago. Now, we have seen in the United States where we are doing sequencing, ever increasing proportion of those viruses being sequenced are B117. And let me remind you, as a variant of concern, remember, there are three kinds of variants of concern. One is more transmission. Two is more serious illness. And three is the ability to evade immune protection from either natural disease recovery or from vaccine. And in this case, what we're looking at with B117 is the first two categories, increased transmission, up to 60 to 70 percent increased transmission over previous sars-cov-2 viruses, as well as more serious disease. This week, a paper in Nature supported that up to 60 percent increase in severe illness, also much as we were talking about the percentage increase in transmission. So what's happened? Well, we now see the Helix Dashboard, which is that company that is sequencing these at about 46 percent of the cases in Florida as of March 9th are now B117. Twenty five

percent of the cases in California on March 10th. Thirty eight percent of the cases in Texas on March 9th and 40 percent of the cases in Georgia as of March 9th. These are areas where we have more of the viruses being sequenced and give us a bit more data. All of these are getting there or close to that 50 percent level where in Europe we saw countries at that point reaching that same level, showing a significant increase in cases. So, you know, we're right at that point. In the meantime, we have seen other areas of the country where we don't have the similar set of data regarding the sequencing, but suggestive data such as in Michigan, where they have literally gone in one month from about 1045 cases reported a day to now over 2223 average cases reported per day. And that number is continuing to increase. That has been attributed in at least some part, if not large part, to the presence of B117. As part of this Minnesota outbreak we are seeing an ever increasing transmission in adolescents, teenagers with spill over then into the community. Much of this has been associated with youth sports. For example, in this outbreak that has been investigated by both the Minnesota Department of Health and local health departments here. And I might add, an absolutely incredible piece of work, incredible piece of work by this group. They have found what just several weeks ago was an initial outbreak of the B117 and is now spread to four private schools. It's now in nine public schools. It's in one child care program. It's involved 18 hockey teams, four basketball teams associated with three different high schools, three club lacrosse teams, one club soccer team, two recreational centers and one fitness center. And it's still expanding rapidly. This is the kind of challenge you see, because while it's focused yet largely in our younger age population, it's the spillover that occurs once it gets into moms and dads, grandpas and grandmas. That's where we have to be very concerned about this. And as I said last week, having been in this business for forty six years, there are those few times you can look at something happening that Mother Nature is doing. You go, "Oh my, how is that happening?" And the dynamic transmission that's happening here right now with B117 is unlike anything I have seen throughout the duration of this pandemic in terms of transmission. So this is really a real challenge. Just to give you some sense of what's happening right now, we're seeing over an eighty five percent increase in cases in Minnesota for the last week versus a month ago at the same time period. And I think this is, in fact, an example of what is going to continue to occur with B117. I'm happy to report that the US government is actually taking this situation very seriously and just in the last several days have actually made a series of public statements about what they're doing to prepare for the surge and how they're ramping up their activities to look at the ability to go into areas that are,

in a sense, hotspots with B117 with additional vaccine and to try to minimize transmission. For example, yesterday a senior White House official said, "Everything we do is with the thought in mind that there might be another surge." This, to me, is a really important situational awareness. You've heard Rochelle Walensky, the CDC director, Tony Fauci, the director of the National Institute of Allergy and Infectious Diseases, all sounding the alarm about the issue of making certain we don't put ourselves in harm's way. I can't say that strongly enough. Look at the people on here largely, some of you I know are recovered, having been infected, some of you have lost loved ones, but many of us on this podcast have not yet been infected. And there is no reason we should get infected. None of us want to be the person who dies one week before they were scheduled to get their vaccine. So now's the time for us to hold out just a little bit longer, just a little bit longer. Now is the time for us to do that, and I do see the potential future as being so, so much brighter. Let me just add a couple of points of context, though, because I think this is really important so that people understand that this is not just a bunch of public health people crying wolf. But if we look at some of the countries in Europe, remember what's happened in Europe, they had major activity in that December/January time period that we did from non-variants. This was their response. Lockdown, lockdown. We didn't. They did. And so when B117 started to show its ugly face in Europe, spreading from basically the U.K. to other countries in Europe in late December, early January, these countries were already in lockdown for the previous surge. And so at first B117 really didn't have a chance to take off nearly as much. But since that time, that has really changed. Now, I've already shared with you over and over again what's happened in England, and they are now literally just beginning to open up. The government leaders and public health officials in England have made it very clear they will take additional steps again should they see a spike in cases occur as they open up. Their hope, like ours, is to get more and more people vaccinated. And in this situation, they're further ahead in getting more of the older population vaccinated. We still have a ways to go to get that done. What's happening in Germany now? They are now seeing a very rapidly increasing occurrence of cases. They've had over a forty six percent increase in cases of B117 over the past two weeks, as was stated by one of their public health leaders. We have clear signs a third wave in Germany has already begun. The latest modeling from their leading Infectious Disease Institute predicts that if the increase continues at this rate for the next four weeks, Germany will have a higher covid incidence rate than it did at Christmas, its previous peak. So they're very concerned even with what they've had in place. For example, most stores have been

closed in Germany since December 16. Restaurants and bars have been closed since November 2nd. They did reopen elementary schools last week and hair salons on March 1st. Germany extended their lockdown until March 28th, but are considering easing some restrictions in areas with lower infection rates to allow some non-essential business to reopen. Again they emphasize easing of restrictions will be quickly reversed with an emergency brake if incidence exceeds 50 cases per hundred thousand residents for seven consecutive days. So here is a place that's basically been dealing with this situation for almost three months. Let me just close with a couple of other examples of countries in Europe, which I think really are very instructive on what we might expect to see here. Over the course of recent weeks, I've heard over and over again from various experts in the media saying that number one, seasonality is now critical to the case numbers dropping and that we won't see a surge of cases with B117. There's no way they can say that. We still have no evidence that seasonality is playing a role in the transmission of this virus. It may one day, but at this point, there's no evidence. The peak we saw, as I mentioned before, in January was the peak resulting from the major increase in cases in the Sunbelt states from Southern California to Georgia. The very same states that, by the way, were on fire in July that gave us that first initial large peak. If you look at what's happening in the northern hemisphere, the southern hemisphere, absolutely no sense that seasonality is playing any role. I only point this out because that would be a convenient way of saying why the case numbers are dropping and will stay low. The other one is, is that we have hit herd immunity or that we have such protection in the United States from the number of people who have been infected. Let me just be really clear about where we sit in the United States right now in terms of protection from vaccine and from previous infection. To date, we estimate that at most 25 to 30 percent of the US population has evidence of previous infection. I have just reviewed several recent papers submitted for publication looking at the serology or antibody prevalence of people in the United States. And it is very clear that we are no higher than that level. Think of all the pain, suffering and loss that we've experienced in the last year just to get to twenty five or thirty percent. We've paid a tremendous price and we still potentially have a long ways to go. If you add in the vaccination numbers I just gave you about 11 percent of the population being vaccinated, 21 plus percent with one dose at least, that adds up basically to 45 to 55 percent of the population currently protected. I tell you this because two countries right now in Europe are experiencing major, major increases. I mean, we're talking about exponential growth curves. One is Malta. While that's a much smaller country and their

numbers are much smaller overall, their peak in mid-January when it was really high, it was one hundred and ninety seven cases a day. Now we're seeing actually seven day averages of three hundred and seven cases and the number is rising quickly. I mean, it is on a rocket ship north. When you look at them, they have had almost 17 percent of their population has had at least one dose. It's not that far off from ours. And more importantly, when you look at what's happened, they have had a history of lots of infections in Malta already. So they are, in a sense, very similar to us of what we might expect to see with protection from previous infection and vaccine. And yet seeing, and this by the way was all B117. It's very clear that B117 is driving this particular increase. If you look at the rest of the world as a model, you can see what is happening. And so from that perspective, I just want to really emphasize why it is we must pay such close attention. Let me close this section by commenting on the variants of concern that are other than B117 and the ones that we've been most concerned about. And I have to start at the top of the list, which is the P1 variant, the one we've seen in Brazil. Right now Brazil is a total house on fire. We are seeing major increases in cases literally every day there. Their seven day average and their mid-January peak was about 54.6 cases. This was before really P1 started. This past week it's now up to 71.4 thousand cases per day and it's climbing really quickly. P1 is by far the most important of the variants we're seeing there. This is the one that has the ability to evade immune protection of vaccines and in previous immunity from natural infection. How much it evades it is still unclear. There's now increasing evidence that also it may be much more infectious and causing more serious illness. So it would, in a sense, include all three of the buckets that we talk about with variants of concern. We're seeing major increases in hospitalization in Brazil such that they are by their own declaration in crisis. In the southern states of Rio Grande do Sul, ICUs are so overloaded that the largest public hospital treating covid-19 patients in the state capital Porto Alegre said Sunday it was forced to close its doors to any new patients. It just can't take them. This is being played out in a number of locations through Brazil. What will happen with P1? We don't know. Will we see it coming to our back door? Surely it's here. How much will it spread? We don't know. We're seeing it now take off in Uruguay. We're seeing it take off in Paraguay. One of the reasons why the Americas, as I mentioned earlier, is such a critical issue. So this is one to stay tuned on. We often get asked questions about variants of concern in Africa. We haven't had a lot of information coming out of there. However, we're now seeing in Ethiopia a rather substantial increase in cases in what's happening there. And cases are rising quickly in countries like Libya, Kenya, the Ivory

Coast and Guinea. So while the data are very limited in what's happening in Africa, it is clear that there are an increasing number of infections there that we need to be concerned about.

Chris Dall: [00:30:06] So, Mike, do we know anything more about the New York and California variants that have been reported?

Michael Osterholm: [00:30:12] We have heard a lot about variants of concern that originated right here in the United States, most notably one was called the California variant B1429 and B1427. And I think the data right now on those which have been refined over the past several weeks, they find that they may be slightly more infectious or transmissible, but the data still are inconclusive. They are not main drivers of transmission like we're seeing with the B117. The New York variant is more interesting and likely of importance. There are now two sub lineages of it, with one carrying what we call the E484K mutation, the one that is so important with P1 and B1351, the ability to evade immune protection. So I think this is one that I would call it a variant under investigation, but it could turn out to be a very significant variant here in the United States.

Chris Dall: [00:31:14] So, as you noted, the vaccine rollout continues to pick up steam here in the United States, but there's been a pause in some European countries due to reports of blood clots in a small number of recipients of the AstraZeneca vaccine, which has not yet been authorized in the US. Is this an example of the concern you've raised on the podcast in the past, health issues that you would normally see in a population that are now being linked to vaccination?

Michael Osterholm: [00:31:40] Any time you see a health condition that occurs coincidental with a vaccine, you at least have to take a look and say, "Is this likely or is this possible that it could be associated with the vaccine itself?" So no one wants to miss or dismiss some kind of a health condition. But at the same time, we have to understand there are many, many health conditions that will occur coincidental to getting a vaccine. Let's take the situation right now that's happening with the AstraZeneca vaccine in Europe. This all began when there were four cases of blood clots in abnormal bleeding in four individuals in Norway. All were under 50 who received the vaccine. Of the four individuals, two of them died from brain hemorrhages and the

other two were hospitalized. At that point, that created a great deal of news attention. And other countries in Europe started looking at this. As of today, there have been 19 countries that have decided to delay any further use of the AstraZeneca vaccine, despite the fact that the European Medical Authority, the FDA basically of the E.U., and the World Health Organization have said do not suspend the program at this time as there is no conclusive data that these are really related to the vaccines. If you hear that, you say, "Well, how can that be the case? You know, look at what's happening here." Well, let me just back up and give some context. If you look at the United States and the roughly three hundred and thirty million people we have, every year between three hundred thousand six hundred thousand people develop these similar blood clots, 60 to 100 thousand Americans go on and die annually from this type of thromboembolism. Looking at those numbers and extrapolating out to the fact that every day we're vaccinating now about two million people. Based on this estimate I just gave you, you could expect about one thousand to two thousand of these blood clots to occur in the US population every day. If you assume right now that the US has two hundred and fifty three million adults, so basically every day about 2.3 million or about one percent of the adult population is getting vaccinated. If you take one percent of that normal one thousand to two thousand daily blood clots, that's 10 to 20 a day that would occur on the day of your vaccination and occur the next day and the next day and the next day. So the challenge is, if you do have a risk of some adverse event like this blood clot, how would you know? Would you have to see a very sizable increase in the number of cases and the answer is yes, that's the challenge we have. So today what you're seeing happen is out of an abundance of caution, government officials are basically, in a sense, overruling the public health officials and saying we are going to stop the program because that's what is politically expedient in light of people not wanting to get blamed for having some problem occur. But at the same time, they are undermining dramatically vaccine confidence and people who are not getting vaccinated will not be protected. And the risk of dying from covid-19, even if there were some slight increased risk with this vaccine, is substantially higher from covid-19. So I am very sympathetic to the concerns of wanting to know is there some risk, increased risk specifically, with getting vaccinated and having these thromboembolisms. But at the same time, understanding that by not vaccinating, people are also put at high risk, particularly as in many cases in Europe we're seeing this B117 surge and people at risk. So I commend the EMA and the WHO for the rapid response. They're having meetings this week. I can only hope that some countries are going to reconsider quickly. I understand that that

may be in the works right now for several other countries that they are going to reconsider their bans on the vaccine. And at this point, the British health officials have said very clearly in their extensive look see at this in their country, they have seen no evidence of increased risk. So stay tuned. But I feel quite confident, based on the information I've seen to date, is that this is not a cause and effect kind of event. And let me just remind everyone, I shared this with you before in previous podcasts in some months ago, if we were to vaccinate one million, 55 to 64 year olds today, one million, we would expect in the next week 170 of those individuals to die by whatever cause, all cause mortality. Just a straightforward actuarial table kind of a calculation. Imagine in the week after someone might have been vaccinated and they die. How many family members would immediately connect that vaccine with that death almost without regard to what caused it? That's the challenge we're up against right now. And we must do a much, much better job of trying to share the information with the public about how do we determine when there is an increased occurrence of an event associated with vaccination? And when is it just part of the routine events of life?

Chris Dall: [00:37:39] Has there been any movement that you're aware of on the issue of extending the interval between the first and second doses of the covid-19 vaccine here in the United States?

Michael Osterholm: [00:37:49] There has been. Actually I personally have had conversations with some senior White House leaders in this area about this in the past week. And now that they're beginning to see the whole surge issue of B117 as a possible reality, everyone's talking about what else can be done. And so I don't know what will happen. Recall that we laid out four different scenarios that would help us get more vaccine to those who are sixty five years of age and older. One was just target it. Right now we are basically opening up vaccine to almost anybody and everybody on a given state wide basis. Governors are feeling the need to do that, even though vaccine isn't going to be available at any larger quantity for some time. They're doing that. Well, when you do that, what happens? You take vaccine away that could possibly go into those 20 million people 65 years of age and older. Again, where the most severe disease, and again, where the hospitalizations and deaths are going to occur. So that's number one is just target vaccine to that group. Two, do the delayed dose for weeks, eight, 10 weeks till we get more vaccine and we get through this possible surge. Three, stop giving second doses to people who have already been infected and then

vaccinated. We have clear and compelling data that show that they are protected in a very, very high level of protection after one dose after natural infection. Use the second dose for others. Finally, is the issue of why are we still continuing to use the high dose Moderna vaccine at one hundred micrograms when we know 50 will work just fine? And boy, wouldn't that be great if we could double the Moderna vaccine availability. So I'm hopeful that we're going to continue to have more discussion of this. But every day we waste is a day that we can't get more of these individuals vaccinated. And I've heard from some of you about how you feel like, wait a minute, we've got to take care of people under sixty five of those who from any number of different risk categories that are surely deserving. We want you to get vaccinated. As I've shared with you, it's in the document that we produced, the CIDRAP viewpoint. We're just talking about trying to save the most number of lives. And the way to do that right now would be to target as many people as possible sixty five years of age and older. And don't waste a day after you have more vaccine and you get them vaccinated to get others younger than that at risk, whether it be race, ethnicity, occupation, underlying health conditions, get them vaccinated. But get those sixty five years and older vaccinated first.

Chris Dall: [00:40:32] So let's stick with the vaccines here, since we've gotten several questions about them from our listeners. One listener, Lisa, wanted to know whether you can get or spread covid-19 after vaccination and how much protection the vaccines offer against the different variants. You mentioned B117 earlier, what do we know about that, Mike?

Michael Osterholm: [00:40:50] We have surely been challenged by the issue of once you're vaccinated, in this case, two doses, one dose depending on which vaccine you're getting, why do you need to continue masking? Why do you need to continue to worry about yourself being infected? And those are legitimate questions. And we've talked about those here on this podcast. We're going to continue to talk about those here on the podcast. I think the really important message to send here is, is that what data we have doesn't at all suggest that one can be infected once vaccinated with an asymptomatic or very mild infection and spread it to anyone else. So I think that one really, I'm feeling more confident about all the day. I did feel confident months ago, but even more so now. So I don't think that's a problem. As far as the variants, the P1 and the B1351, those that do evade immune protection, you know, we're still trying to figure that out. Just how much does it reduce our protection? We do know from the vaccine

trials that there was some protection against severe disease, hospitalization and death. That's really good news even in the face of that variant. But with what we've seen in Brazil in particular, we still have questions. So we're going to have to hold on to understanding what B1351 and P1 mean. The important message to get across now, however, though, is it to B117 variant, the one that's literally on top of us right now, is in fact vulnerable to our vaccines. They're very protective against that variant. And that's why we need to get as many people vaccinated as possible.

Chris Dall: [00:42:29] So, Mike, here is an issue that is of interest to parents across the country. Many school districts around the country are reopening for in-person learning. And a study came out last week that suggested three feet of distance between students may be as safe as six feet, which is what the CDC recommends. What did you make of this study?

Michael Osterholm: [00:42:49] Well, it surely has received a lot of attention and let me just try to put it in context. This paper came out of the Harvard Medical School with a very distinguished group of researchers. And what they looked at was the transmission of sars-cov-2, the virus causing covid-19 from asymptomatic and pre symptomatic individuals in health care settings who actually had medical masks on and eye protection. Because they use genetic sequencing they could actually demonstrate with certainty that Person A infected Person B and under the conditions with which that occurred. And they described three different instances where despite medical masks and eye protection transmission occurred. Even if the person themselves were masked who was infected. And this shouldn't be a surprise, because as we've shared on this program before, medical masks can reduce your risk, but they don't stop the aerosol transmission potential because so much leaks out. And this paper, which I hope everyone will read, we will put this on our website for a link, really gives people, I think, the information that is important to understand. If a medical mask in itself was not enough to stop transmission from somebody wearing it who is infected or someone who was wearing it who is not infected, who, by the way, had an eye shield and still got infected, it just demonstrates how infectious this virus is. So when this paper came out on the three feet, six feet, which also came out of a group in Boston, it was very clear to many of us who deal with this issue that it had a very, very faulty design. And frankly, I think yields virtually no useful data that we can address relative to the safety of three versus six feet. First of all, six feet and three feet all correspond to the concept of

droplets, these big particles that they fall out within six feet. No one suggests for a moment they fall out within three feet. Well, we've already said droplets really don't necessarily play the major role. Aerosols do, which go much, much further than six or 10 feet. So the whole issue of addressing three versus six feet is almost nonsensical to me. It really makes little to any sense. You would expect the rates of disease to be the same for two, three, four, five, six, seven, eight feet apart. Because one, is if I'm in that setting, the aerosols are going to spread much further than three or six feet. Number two, no one has talked about time. So even if I have a face cloth covering down, that does reduce my potential exposure by 20, 30 percent. If I'm in there for hours at a time, that basically doesn't cover me for that. Nothing was there about time. The third thing is you can say, "Well, but we didn't see all this widespread transmission." Well, we have said all along we do not understand why, this is the humility piece again, why kids, particularly eighth grade and younger, but even a bit older, we don't see the same level of transmission that we see in the rest of the community. This study, had it been done when you did no distancing whatsoever, you could be shoulder to shoulder, with or without a mask on, you would still find the same information, basically, because, in fact, there was so little transmission occurring in schools with kids. So I think that's an important point. But the final piece of it is the measurement. I have heard from many teachers who have been unable to keep kids three and six feet apart and keep them in a way that you can say consistently, "They were only three feet apart or they were only six feet apart and always were able to maintain that". So this paper makes no biologic sense. I think it has major study design challenges. And I think it would be really unfortunate if we now highlight this three/six feet issue, particularly now that B117 is coming. There we are seeing transmission in kids in a major way and transmission that is not going to be interrupted by a three or six foot barrier as such with a cloth face covering on being in the same classroom for hours and hours. So you've heard me on this podcast over the course of recent weeks, go from a proponent of kids in school in that setting where a pre-B117 environment meant little transmission to one now where we have to entertain that. And I think the outbreak right here in Minnesota is clearly demonstrating that, in fact, kids together, regardless of how close, are transmitting the virus. So I wasn't at all enamored by this paper. And I hope that it does not lead to major policy changes in this country, I think would be a major mistake.

Chris Dall: [00:48:01] So now to our acts of kindness update, which always brings a smile to our faces. This week we have an act of kindness from a listener here in Minneapolis. Can you share with the audience, Mike?

Michael Osterholm: [00:48:13] Well, each week when we look through the acts of kindness that have been submitted to us, it's a very moving experience. And it seems as if it only gets more moving with time. If you're going to sit down and read these, you better bring a box of Kleenex with you. And this week's was no different. This one comes from Karin Jacobsen. Notice I mentioned her last name and you'll see why in a moment. Karin is from the Twin Cities area here. She's a jewelry designer and maker. Well known, very accomplished, beautiful work. And she wrote an email which I will take some bits and pieces out of it, not all the whole thing. But she said, "Like many listeners, I was called to be part of the pandemic of kindness and as a jewelry designer and maker, have found a way that fits my skillset. I have designed a pendant called the mended heart pendant, and all the proceeds from the sale of these pendants will be donated to the Front Line Families Fund. I'm hoping that it will be a reminder to all who wear them of the importance of front line health care workers of their hard work and sacrifices over the past year. At the same time, I am glad to be able to donate the proceeds of the sales to such a terrific non-profit. There is nothing that can make up for these families profound loss. But ensuring better access, resources and scholarships can at least keep a tragic situation from getting so much worse." Karin has designed what I would call, as much as the jewelry piece of the pandemic. And you must see this heart, it is simply remarkable. Just know that in partnership with her retails, Karin has committed to meticulously crafting beautiful art, jewelry and wedding rings. All of her work is hand fabricated in her studio in Minneapolis and focuses on ethically sound materials such as recycled metals and gemstones that are fair trade, recycled, domestically sourced. So I urge you to consider taking a look at it. The link is on our website. Know that the proceeds, all of them are going to go to the Frontline Families Fund, that fund that we helped start to take care of the family members of health care workers who have died from covid-19. And also, I hope you'll go visit Karin's website just to look at the beautiful jewelry that's there. So Karin as an act of kindness, I can't begin to explain how much this means to us at CIDRAP. I know many, many individuals on this podcast today are going to also feel the very same when they see your piece of work. I also would urge you all in that same light to go back and consider to download Vaccinate With Love, the Peter Lake wonderful anthem for a vaccination that was in our

forty fourth episode done on February 18th. He too is donating the proceeds of any downloads that occur with that song to the Frontline Families Fund. And so you artists who are so amazing with hearts as large as the world. Thank you. I can't tell you how much it means and Karin thank you in particular for your beautiful work and the message that it sends to all of us around the world. We must and can support our mended hearts.

Chris Dall: [00:51:54] And a reminder to our listeners that if you want to share your pandemic act of kindness with us, please email us at OsterholmUpdate@umn.edu. Your closing thoughts today, Mike?

Michael Osterholm: [00:52:07] As I've done in the past several weeks, I have gone back and revisited the vault of dedications and some have particular meaning that I think are worth bringing back for a second go round. And given where we're at right now, given the fact that we've got to get through these next weeks, we've got to get people vaccinated. Remember, we don't want anyone on this podcast to be the person who dies one week before they were scheduled to get their vaccine. We are not going to let that happen collectively as a family. We're not going to let that happen and we don't have to. But it's going to take us helping each other and it's not going to be easy for the next few weeks. I know that. So I pulled this song back out as a, you might say, a tribute to that very mindset. This was played originally on Episode 13, way back last on June 24th. It was a hit written by Bobby Scott and Bob Russell. It was originally recorded by Kelly Gordon in 1969. And then later that year, The Hollies recorded it. It was of note that Russell was dying of lymphoma at the time that he wrote the song and literally finished it just before he died. The title He Ain't Heavy, He's My Brother has a very special meaning. In the 1940s, these words were adopted as a slogan for Boys Town Children's Home. Father Ed Flanagan, who began Boystown, noted that he first heard those words in 1918 as one of the youthful residents said to him as he was climbing the stairs with a boy on his back. The boy carried his brother, who had had polio and was in leg braces, and when Father Flanagan asked him about the moment, the brother looked at him and said, "He ain't heavy. He's my brother." So today, I'm going to take the license to alter a line or two in this lyrics, but I think that the meaning will be equally clear and hopefully compelling. So here it is. "He ain't heavy. He's my brother and my sister. The road is long with many a winding turn that leads us to who knows where, who knows where. But I'm strong, strong enough to carry him or her. He

ain't heavy. He's my brother. He ain't heavy. She's my sister. So on we go. His welfare is my concern and her welfare is my concern too. No burden is he or she to bear. We'll get there for I know, he and she would not encumber me. He ain't heavy. He's my brother. She ain't heavy, she's my sister. If I'm laden at all, I'm laden with sadness that everyone's heart isn't filled with the gladness of love for one another. It's a long, long road from which there is no return. Well, we're on the way to there why not share? And the load? It doesn't weigh me down at all. He ain't heavy. He's my brother. She ain't heavy. She's my sister. He's my brother, she's my sister, he ain't heavy, he's my brother, she ain't heavy, she's my sister." Thank you again, all of you, for being with us this week. A lot of information to cover. I'm sorry we don't have more time to get into many of the other questions that you asked. Great questions. Just be safe. This time that we're coming upon is going to pose some new challenges and new risk. Just hang in there a little bit longer, just a little bit longer. We're going to get through this. Days are getting lighter. To our colleagues and friends and family members in the Southern Hemisphere. I'm sorry. We're trying to ship as much sunlight as we can across the equator to you, just know your turn will come soon and just be kind. Be patient. Be safe. Look for the facts, be humble. And just remember, he and she ain't heavy because they're our brothers and sisters.

Chris Dall: [00:57:04] Thanks for listening to this week's episode of the Osterholm Update, if you're enjoying the podcast, please subscribe on your podcast platform of choice and write a review. And be sure to keep up with the latest covid-19 news by visiting our website, [CIDRAP.umn.edu](https://cidrap.umn.edu). The Osterholm Update is produced by Maya Peters, Cory Anderson and Angela Ulrich are our researchers, and Randy and Eric Olson are Dr. Osterholm's story consultants.